



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,698	10/31/2001	Frank J. Kronzer	NPI-17 (16016.1)	2529
22827	7590	10/31/2006		EXAMINER
DORITY & MANNING, P.A. POST OFFICE BOX 1449 GREENVILLE, SC 29602-1449			DICUS, TAMRA	
			ART UNIT	PAPER NUMBER
			1774	

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/003,698	KRONZER, FRANK J.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tamra L. Dicus	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 17 July 2006.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1,2,4,11-15,22-29,31 and 32 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) 5-10, 16-21 is/are allowed.

6)  Claim(s) \_\_\_\_\_ is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) Paper No(s)/Mail Date. \_\_\_\_.  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.  
5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_.

## DETAILED ACTION

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-2, 4, 11-15, 22-29, 31-32 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,916,751 to Kronzer in view of USPN 5,468,532 to Ho et al.

Kronzer claims a heat transfer material comprising a base substrate; a first layer overlying the base substrate; a second layer overlying the first layer where both first and second layers are melt-flowable at a transfer temperature; and a release layer therebetween. See patented claims 1-20. Kronzer does not claim the first layer having pigment and a crosslinker.

Ho teaches crosslinking agents epoxy and polyfunctional aziridine are incorporated with acrylic polymers in thermal transfer media in ink compositions containing white pigment in a continuous or discontinuous layer (col. 3, lines 28-45, col. 4, lines 1-21 and 55-68, and col. 5, lines 1-5) serving to adjust melt flow characteristics (Examples and Abstract).

It would have been obvious to one of ordinary skill in the art to have modified the heat transfer of Kronzer to have included crosslinking agents epoxy and polyfunctional aziridine incorporated with acrylic polymers in thermal transfer media in ink compositions containing white pigment in a continuous or discontinuous layer because the composition serves to adjust melt flow characteristics (col. 3, lines 28-45, col. 4, lines 1-21 and 55-68, and col. 5, lines 1-5, Examples and Abstract of Ho).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4, 11-13, 15, 22-25, 27-29, and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,863,781 to Kronzer USPN 5,468,532 to Ho et al.

Kronzer teaches a heat transfer material and method comprising: a substrate layer of paper webs or plastic films (instant claims 15 and 27) (Kronzer, 12, FIG 1 and associated text); a release coating layer of acrylic polymer ethylene-methacrylic acid copolymer (Kronzer, 20, FIG 1 and associated text; col. 5, lines 44-45) (instant claims 13 and 25; a peelable film layer overlying said release coating layer, wherein said peelable film layer is melt-flowable at a transfer temperature (Kronzer, Abstract and 18, FIG 1 and associated text, functional equivalency to conformable layer as in Applicant's specification, page 8, [0025] where the peelable layer is to conform to a substrate made of a melt index less than 800 as determined by ASTM D1238-82; see col. 3, lines 33-40 and col. 5, lines 15-26 of Kronzer teaching

conformable layer is of the same ethylene and wax (instant claims 11-12 and 23-24) having a melt index greater than 30 to assist in the transfer of vinyl ink because of its inherent nature it will when heated soften and flow) ; and a discontinuous polymer layer including an opacifying material, said discontinuous polymer layer overlying said peelable film layer (Kronzer, 22, FIG 1 and associated text, printed vinyl resin white ink (instant claim 2), see col. 3, line 39, col. 4, lines 15-21 and lines 50-55, col. 5, lines 15-65, and col. 6, line 25).

Kronzer generally discloses a vinyl ink (22, FIG. 1 and associated text) that is either continuous or discontinuous layers, but does not teach a crosslinking agent /crosslinked polymer or printable layer, or that the pigment is white, or that it is of epoxy or multifunctional aziridine in adjacent opaque crosslinked layers (instant claims 1, 2, 4, 22, 24, 28-29).

Ho teaches a specific vinyl ink comprised of crosslinking agents epoxy and polyfunctional aziridine, incorporated with acrylic polymers, a species of vinyl, (crosslinking agent + resin binder, forming crosslinked polymer) containing white pigment in continuous or discontinuous adjacent layers (col. 3, lines 28-45, col. 4, lines 1-21 and 55-68, col. 5, lines 1-10 and col. 7, line 51) in thermal or hot transfer media in ink compositions for improving various physical properties including dimensional stability and melt flow characteristics (Examples and Abstract).

It would have been obvious to one of ordinary skill in the art to have modified the heat transfer of Kronzer to use the ink of Ho as polymer or printable layers as claimed because the composition serves to improve various physical properties including dimensional stability and melt flow characteristics (col. 3, lines 28-45, col. 4, lines 1-21 and 42-68, col. 5, lines 1-10 and col. 7, line 51, Examples and Abstract of Ho).

Regarding instant claims 22, 28 and 65, the capability of being able to be printed by an ink jet printer and not becoming fluid at a transfer temperature is met because the materials used in the crosslinked printable layer is the same. Also regarding the non-transferable and transferable portions, despite the difference in wording to a non-transferable portion and transferable portion, the same layers, made of the same material, in the same structure is claimed by Kronzer, and thus would be expected to perform in the same way as presently claimed.

Claims 14 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,863,781 to Kronzer USPN 5,468,532 to Ho et al. and further in view of USPN 5,879,790 to Sogabe et al.

Kronzer and Ho are applied above.

Kronzer nor Ho teach a release-modifying agent (instant claims 14 and 26).

Kronzer does not teach a release-modifying agent (instant claims 14 and 26).

Sogabe teaches release-modifying agents such as wax and heat-meltable resins such as acrylic resins are used in combination within release layers for the purpose of assisting in transfer and adjusting melt flow (col. 5, lines 3-68-col. 6, lines 10).

It would have been obvious to one of ordinary skill in the art to have modified the heat transfer of Kronzer to have included release-modifying agents because Sogabe teaches release-modifying agents help adjust melt flow and assist in overall transferability in heat transfers (col. 5, line 40-68 – col. 6, line 7 of Sogabe).

***Allowable Subject Matter***

Claims 5-10, 16-21 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: the applied prior art does not teach or suggest a heat transfer material as per instant claims 5 and 16 comprising discontinuous polymer and printable layers in the orders as claimed.

*Response to Arguments*

Applicant's arguments filed 07-17-06 have been fully considered but they are not persuasive.

Applicant does not contest the non-statutory double patenting and is in agreement with considering providing a terminal disclaimer to overcome the rejection, but has not submitted the terminal disclaimer to date. Kronzer essentially teaches the claimed invention except for adding a crosslinker. Ho is still used to disclose an acrylic ink, which is a species of vinyl including a crosslinker and applied to layers of ethylene acrylic also for the purpose of affecting melt flow and other characteristics (col. 3, lines 25-50, col. 4, line 5-col. 5, line 55). Thus, the Double Patenting rejection is sustained.

Applicant argues the combination of Kronzer and Ho over the use of a crosslinked polymer in the release layer 20 and barrier layers. Applicant has not persuasively argued because the Examiner did not refer to modifying the release layer with a crosslinking agent, but used the crosslinking properties for modifying the ink 22, not release 20 as set forth above.

Applicant argues Sogabe however, Sogabe is used to show additions of wax as claimed. Kronzer provides most of the elements and Ho is used to show a specific vinyl ink composition.

Arguments to claims 5-10 and 16-21 are moot in view of the allowable subject matter set forth above.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is 571-272-1519. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tamra L. Dicus  
Examiner  
Art Unit 1774

October 18, 2006



RENA DYE  
SUPERVISORY PATENT EXAMINER

Art Unit 1774  
10/18/06